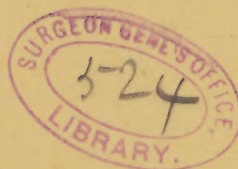


CHRISTIAN (H.M.)

Posterior Urethritis + + + + +



POSTERIOR URETHRITIS—ACUTE AND CHRONIC.

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POSTERIOR urethritis is, as the name implies, an inflammation of the posterior or prostatic urethra, *i. e.*, that portion of the urethra passing through the prostate gland between the external and internal prostatic sphincter. Acute posterior urethritis is, in the vast majority of cases, a result of the extension of gonorrhœal infection into the deep urethra, although it may occasionally result from the passage of a sound, the introduction of a catheter, or the existence of tuberculosis in prostate gland.

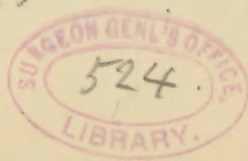
The particular form of posterior urethritis that I wish to call your attention to to-night is that due to the extension backward of a pre-existing anterior urethritis.

As a result of this presence in the deep urethra of the gonococcus, we have the most common and, if not properly treated, the most troublesome complication of clap, often improperly called "cystitis of the neck of the bladder."

True gonorrhœal cystitis is a most infrequent affection; most of the cases so regarded must in reality be considered as cases of acute posterior urethritis. This condition is considered in this paper as being a complication of gonorrhœa, although so eminent an authority as Dr. R. W. Taylor, in a recent discussion before the New York Academy of Medicine, stated that, in his opinion, posterior urethritis necessarily results in all cases of gonorrhœa. But it would certainly appear to me, from a series of experiments made at the Genito-urinary Dispensary of the University Hospital, at the request of Dr. Edward Martin, that posterior urethritis should not be regarded as an essential and necessary feature of all cases of clap.

The pathological condition present in acute posterior urethritis does not differ in any respect from that present in inflammation of

presented by the author.



the anterior urethra. There is the same condition of hyperæmia and inflammation of the mucous and submucous tissue of the posterior urethra, due to invasion of these structures by gonococci. The prostate gland itself is not affected except in cases complicated with acute prostatitis.

In order to better comprehend the clinical symptoms present in a case of posterior urethritis, it might not be out of place to briefly recall to your minds some important points in the anatomy and physiology of the prostatic urethra. This portion of the urethra passes through the centre of the gland and is the widest portion of the canal. There is a layer of transverse and longitudinal muscular fibres surrounding the opening into the bladder known as the internal prostatic sphincter. The same arrangement of muscular fibres at the apex of the gland surrounding the urethra is called the external prostatic sphincter. The muscular fibres comprising these sphincters are involuntary. Midway between the internal and external prostatic sphincters on the floor of the urethra lies the *veru montanum*, an elevation of mucous membrane about an eighth of an inch in height and composed in part of erectile tissue, at the summit of which the common ejaculatory ducts empty into the urethra. The *veru montanum* plays a most important rôle in the physiology of the deep urethra. It is the centre from which spring all the reflexes which operate in the act of micturition.

When the bladder in the healthy subject becomes distended with urine, the involuntary fibres of the internal prostatic sphincter relax; the prostatic urethra dilates, and becomes in reality part of the bladder.

As soon as the urine, entering this dilated portion drop by drop, reaches the *veru montanum*, there comes the first desire to urinate. The compressor urethræ and levator ani muscles now act as true voluntary sphincters to hold urine in the bladder.

Anyone having much experience in the passage of sounds must have noticed the peculiarly urgent desire to urinate which occurs as soon as the beak of the sound touches the *veru montanum*. This portion of the deep urethra, moreover, plays a most important part in the reflexes, bringing about a sexual orgasm, and the deep urethra is the seat of all sensation occurring at sexual intercourse. Now, with these few points in the anatomy and physiology of the deep urethra in mind, the symptoms of a case of posterior urethritis must present themselves to you very clearly.

The first of these is frequency in urination. This is, of course,

due to the inflammation about the *veru montanum* acting as a continual irritant and provoking this incessant desire to urinate. There is one peculiar feature in this constant urination which is characteristic of posterior urethritis—in fact, I believe pathognomonic—*i. e.*, the urgency with which the desire to urinate seizes the patient. The desire is imperative and must be gratified at once. This constant and imperative urination varies from intervals of ten minutes to one or two hours. There is not much ardor urinæ at this stage of the disease. Chordee, and frequent and painful nocturnal pollutions, are very frequent accompaniments of posterior urethritis.

Occasional extension of the inflammation up one or both ejaculatory ducts produces in quite a number of cases acute epididymitis.

Another very important symptom is cessation of the anterior discharge. The moment a gonorrhœa invades the prostatic urethra, that moment does the anterior discharge begin to lessen in a marked degree. This drying up of the discharge may be so very complete that we may be congratulating ourselves upon curing our case so promptly. A little close questioning, however, will reveal the fact that our patient, while having very little anterior discharge, is probably urinating every half-hour, or, in other words, has posterior urethritis.

Hæmaturia is an occasional symptom occurring in very aggravated cases. There should be no difficulty in making the diagnosis of this condition. A total cessation or marked diminution of the anterior discharge associated with frequent and imperative urination points unmistakably to the involvement of the posterior urethra.

In addition to these important symptoms, valuable information is given by what is called the two-glass test. The patient in your presence passes most of the urine in the bladder in one large conical glass, and the last remaining portion is passed in the second glass. The contents of the first glass represent the urine in the bladder plus the washings of the urethra. That in the second glass represents the urine as it leaves the bladder. In simple gonorrhœa the first glass will be very cloudy and full of pus and clap shreds from the anterior urethra; the second glass will be perfectly clear. In anterior urethritis, however, the pus in the deep portion of the canal cannot flow forward on account of the compressor urethræ muscles; it therefore flows backward into the bladder and becomes intermixed with the urine. Hence, in posterior urethritis the first glass contains urine plus clap shreds and pus from the anterior urethra, and the second glass is also cloudy and contains shreds washed backward

behind the compressor urethræ into the bladder. In other words, both glasses are cloudy and contain clap shreds. The two-glass test becomes, therefore, a very strong corroborative point in the diagnosis of posterior urethritis.

The proper treatment of these cases is for the most part very satisfactory, and yet is one that I have reason to think is not thoroughly understood by a great many physicians called upon to treat this condition. When a patient presents himself to you with all the symptoms of posterior urethritis, the first and most important thing to do is to discontinue the use of any anterior injection which the patient may have been using.

For the frequent and imperative urination and vesical tenesmus, hot rectal douches night and morning, followed by the introduction into the rectum of a suppository of opium, belladonna, and cocaine, will give great relief. Through the day the following may be given every three hours :

R.—Potass. bromid.	.	.	.	.	.	.	gr. x.
Tr. hyoscyami	.	.	.	.	.	.	gtt. xxx.
Aq. camphoræ	.	.	.	.	.	ad	f ʒss.

Or the fluid extract of pichi in teaspoonful doses may be given every two or three hours.

Locally, the deep urethra should be irrigated every day with one quart of a warm solution of permanganate of potash 1 : 4000, or nitrate of silver 1 : 2000. This is best done by attaching the soft-rubber catheter to the nozzle of a fountain syringe and passing it gently down to the deep urethra, allowing part of the solution to pass into the bladder, to be voided by patient at close of the operation. At the end of two or three days, when the urination is not so urgent and the vesical tenesmus not so severe, the patient can be given internally a favorite capsule in use at the University, containing five minims each of the oil of copaiba and oil of sandal-wood. From four to six of these can be taken daily.

As the most acute symptoms subside the irrigation of the urethra should be followed by deep instillations into the prostatic urethra of five to ten drops of a 1 per cent. solution of nitrate of silver. As the posterior urethritis improves under treatment the anterior discharge will return, although not in any great amount.

When the urination becomes normal and the discharge persists, it is perfectly proper to employ some anterior injection.

Under the course of treatment just described the duration of a case of posterior urethritis should be about four to seven days.

I cannot emphasize too strongly the value, to my mind, of irrigation in this class of cases. It is the only treatment that has ever seemed to me to have any positive effect in the curing of this most troublesome affection. The two solutions that I chiefly use—permanganate of potash 1 : 4000, increasing to 1 : 2000; and nitrate of silver 1 : 2000.

In acute cases I think that the permanganate is a little superior to the nitrate of silver solution. In chronic cases, on the other hand, I prefer the silver solution 1 : 2000, increasing to 1 : 1000.

Chronic posterior urethritis results from long-standing or neglected cases of acute posterior urethritis. All of the symptoms are, of course, much less severe and aggravated. There is some little increase in urination, and the desire to urinate is always imperative. There will probably be little or no anterior discharge. Exploration with a bulbous bougie shows the prostatic urethra to be very tender. There is most always a certain amount of sexual neurasthenia associated with this very chronic affection. A patient with chronic posterior urethritis may complain of almost anything from a pain on the top of the head to a cold spot on the soles of his feet.

General tonics—strychnine and phosphoric acid—are indicated in the treatment of this condition. Twice a week suitable local treatment should be employed. This may consist in the passage of a full-sized sound, irrigation of the deep urethra with nitrate of silver solution, deep injections of nitrate of silver, 5 to 10 per cent., or treatment by direct application through urethroscope.

Those who have had any extended experience in the treatment of cases of posterior urethritis, especially those in which there exist marked symptoms of sexual neurasthenia, will agree with me, I am sure, that they are the most troublesome of all genito-urinary cases to handle. They comprise in large part the class known as sexual cranks. A certain proportion of them can be cured. All can be improved greatly by prolonged and systematic treatment.

The internal use of pure nitro-muriatic acid in five-drop doses, after meals, has been found very often to be very beneficial. Applications directly to the deep urethra through the urethroscope have not proved very satisfactory in my hands.

There is one possible danger to be avoided in the treatment of these cases, and that is the danger of overtreating them. If the patient shows any sign of improvement whatever, lengthen the interval between treatment at once. I am confident that the deep urethrae of many of our patients would be much benefited by occasional intervals of repose and rest from treatment.

